

Claims

[c1] What is claimed is:

1.A nitride light-emitting device having an adhesive reflecting layer comprising:

a metal reflecting layer having an upper surface and a lower surface;

a first reaction layer formed over the upper surface of the metal reflecting layer;

a transparent adhesive layer formed over the first reaction layer;

a second reaction layer formed over the transparent adhesive layer;

a nitride light-emitting stack layer formed over the second reaction layer, the nitride light-emitting stack layer comprising a first surface and a second surface;

a first electrode formed over the first surface; and

a second electrode formed over the second surface.

[c2] 2.The nitride light-emitting device of claim 1 wherein the nitride light-emitting stack layer comprises a nitride first contact layer, the nitride first contact layer comprising a first surface and a second surface; a nitride first cladding layer formed over the first surface; a nitride

light-emitting layer formed over the nitride first cladding layer; a nitride second cladding layer formed over the nitride light-emitting layer; and a nitride second contact layer formed over the nitride second cladding layer.

[c3] 3.The nitride light-emitting device of claim 2 wherein the first electrode is formed over the second surface and the second electrode is formed over the nitride second contact layer.

[c4] 4.The nitride light-emitting device of claim 1 further comprising a first substrate formed over the lower surface of the metal reflecting layer.

[c5] 5.The nitride light-emitting device of claim 4 further comprising a metal heat sink formed over a lower surface of the first substrate.

[c6] 6.The nitride light-emitting device of claim 1 further comprising a metal heat sink formed over a lower surface of the metal reflecting layer.

[c7] 7.The nitride light-emitting device of claim 1 further comprising a second substrate formed between the second reaction layer and the light-emitting stack layer.

[c8] 8.The nitride light-emitting device of claim 1 further comprising a transparent conductive layer formed be-

tween the second reaction layer and the light-emitting stack layer.

- [c9] 9.The nitride light-emitting device of claim 8 wherein the transparent conductive layer comprising a first surface and a second surface; the first electrode is formed over the first surface; the light-emitting stack layer is formed over the second surface; and the second electrode is formed over the light-emitting stack layer.
- [c10] 10.The nitride light-emitting device of claim 1 wherein the metal reflecting layer comprises at least one material selected from a material group consisting of In, Sn, Al, Au, Pt, Zn, Ag, Pb, Pd, Ge, Cu, AuBe, AuGe, Ni, PbSn, and AuZn, or other substitute materials.
- [c11] 11.The nitride light-emitting device of claim 1 wherein the first reaction layer comprises at least one material selected from a material group consisting of SiNx, Ti, and Cr, or other substitute materials.
- [c12] 12.The nitride light-emitting device of claim 1 wherein the transparent adhesive layer comprises at least one material selected from a material group consisting of PI, BCB, and PFCB, or other substitute materials.
- [c13] 13.The nitride light-emitting device of claim 1 wherein the second reaction layer comprises at least one material

selected from a material group consisting of SiN_x, Ti, and Cr, or other substitute materials.

[c14] 14.The nitride light-emitting device of claim 2 wherein the nitride first contact layer comprises at least one material selected from a material group consisting of GaN, InGaN, and AlGaN, or other substitute materials.

[c15] 15.The nitride light-emitting device of claim 2 wherein the nitride first cladding layer comprises at least one material selected from a material group consisting of AlN, GaN, AlGaN, InGaN, and AlInGaN, or other substitute materials.

[c16] 16.The nitride light-emitting device of claim 2 wherein the nitride light-emitting layer comprises at least one material selected from a material group consisting of GaN, InGaN, and AlInGaN, or other substitute materials.

[c17] 17.The nitride light-emitting device of claim 2 wherein the nitride second cladding layer comprises at least one material selected from a material group consisting of AlN, AlGaN, GaN, InGaN, and AlInGaN, or other substitute materials.

[c18] 18.The nitride light-emitting device of claim 2 wherein the nitride second contact layer comprises at least one material selected from a material group consisting of

GaN, InGaN, and AlGaN, or other substitute materials.

- [c19] 19. The nitride light-emitting device of claim 4 wherein the first substrate comprises at least one material selected from a material group consisting of silicon, GaAs, glass, quartz, GaP, GaAsP, AlGaAs, and metal, or other substitute materials.
- [c20] 20. The nitride light-emitting device of claim 6 wherein the metal heat sink comprises at least one material selected from a material group consisting of Sn, Al, Au, Pt, Zn, Ag, Pb, Pd, Ge, Cu, AuBe, AuGe, Ni, PbSn, and AuZn, or other substitute materials.
- [c21] 21. The nitride light-emitting device of claim 7 wherein the second substrate comprises at least one material selected from a material group consisting of Al_2O_3 , SiC, ZnO, and GaN, or other substitute materials.
- [c22] 22. The nitride light-emitting device of claim 8 wherein the transparent conductive layer comprises at least one material selected from a material group consisting of indium tin oxide, cadmium tin oxide, antimony tin oxide, zinc oxide, and zinc tin oxide.